

REMARKS

This Amendment is in response to the Advisory Action dated February 5, 2008 and the Office Action dated November 15, 2007, in which claims 1-7 and 16-20 were rejected. The applicants herein amend claims 1, 2, 4-6, 16, 17, 19, and 20, and cancel the previously withdrawn claims 8-15. The applicants respectfully request reconsideration and allowance of all presently pending claims, i.e. claims 1-7 and 16-20, in view of the amendments and remarks herein.

BOWEN DOES NOT ANTICIPATE CLAIMS 1-7 AND 16-20

Claims 1-7 and 16-20 were rejected under 35 U.S.C. 102 with reference to U.S. patent application no. 09/771,963 of Bowen. The applicants respectfully request that these rejections be reconsidered in light of the amendments and remarks herein, which demonstrate the novelty of the present claims over Bowen.

The rejection of claims 1 and 16 relies on an assertion that the disclosure by Bowen of components such as a keyboard, a mouse, a speaker, and a microphone, anticipates the peripheral devices of claims 1 and 16. However, as clarified in claim 1 as amended, the claimed subject matter is directed to a device hardware abstraction software layer adapted to configure multiple instantiations of a peripheral device within an integrated circuit. The applicants respectfully submit that the user interface devices disclosed by Bowen are simply very different from, and do not anticipate, the multiple instantiations of a peripheral device within an integrated circuit as recited by claim 1. Similarly, Bowen also does not disclose or anticipate a device hardware abstraction software layer adapted to configure multiple instantiations of a peripheral device within an integrated circuit.

The rejection of the present claims also relies on an assertion that the RTL Synthesis block 214 of Bowen anticipates the platform hardware abstraction software layer of the present claims. As emphasized in claims 1 and 16 as amended, the claims recite a software block or code block comprising a device hardware abstraction software layer and a platform hardware abstraction software layer. However, the RTL Synthesis block 214 of Bowen is a process step in

a hardware design process, not a platform hardware abstraction software layer, as recited in the present claims 1 and 16 as amended.

The Office Action argues that Bowen teaches that the RTL synthesis process step maps a hardware description to a given technology, and this is what is relied on in the Office Action for reading on the platform hardware abstraction software layer of the present claims 1 and 16. However, what Bowen teaches here is merely a process step of specifying a given set of hardware that will conform to an RTL specification. This simply does not constitute a teaching of a platform hardware abstraction software layer, that defines an address map of a system, and is adapted to initialize each instantiation of the peripheral device via calls to the device hardware abstraction software layer. The RTL synthesis process step of Bowen does not involve calls to a device hardware abstraction software layer, nor does it involve initializing each instantiation of a peripheral device. These elements of the present claim 1 are simply not addressed in the Office Action. Analogous distinctions of the subject matter of claim 16 over Bowen indicate an analogous rationale for the novelty of claim 16 over Bowen.

Additionally, part of the argument for Bowen to anticipate the present claims 1 and 16 involves the argument that the system design process of Bowen teaches the reusable software block of the present claims. In the relevant passages cited in the Office Action, Bowen teaches a single series of steps, during a design phase of a system, of divvying up different system functions between hardware and software elements. Once the determination is made of what functions to assign to software and which to hardware, this division of labor is settled while the remaining aspects of design phase are completed and the system design is specified. A system design process simply does not read on a reusable software block comprising a device hardware abstraction software layer adapted to configure multiple instantiations of a peripheral device within an integrated circuit and a platform hardware abstraction software layer, as recited in claim 1.

Pages 2-3 of the Office Action include a further argument that the behavioral synthesis of Bowen “allows partition of software block that is capable of simply performing a ‘type of function’ per se on the said hardware system.” However, even if true, this does not

establish that Bowen teaches or suggests a device hardware abstraction software layer as recited in the present claim 1. The “behavioral synthesis” process step of Bowen merely relates to specifying an RTL description that matches a pre-generated hardware behavioral description, not a device hardware abstraction software layer as in the present claim 1.

The Office Action contains a further defense of the argument that Bowen reads on the platform hardware abstraction software layer of claim 1, by arguing that Bowen teaches a software block being run on a given piece of hardware, “and thus” provides an address map and register values, citing paragraph 0173 of Bowen. However, Bowen here discloses only such steps as defining the width of internal memory and stack addresses and defining registers; Bowen does not disclose initializing each instantiation of a peripheral device via calls to a device hardware abstraction software layer.

Claim 16 of the present application also recites a device hardware abstraction software layer defining a configurable structure for the peripheral device; and a platform hardware abstraction software layer adapted to configure the structure of each particular instantiation of the peripheral device via the device hardware abstraction software layer. As illustratively depicted in FIG. 3 of the present application, the platform hardware abstraction software layer is adapted to configure the configurable structure for one or more instances of a peripheral device within an integrated circuit as defined by the device hardware abstraction software layers for the peripheral devices. The Office Action has not shown how these elements might not be novel, and Bowen simply does not recite a platform hardware abstraction software layer and device hardware abstraction software layers that define and enable such configurable structure for instances of a peripheral device within an integrated circuit. Additionally, the only purported examples of peripheral devices indicated in Bowen are clearly not instances of a peripheral device within an integrated circuit, as recited in claim 16.

As the foregoing remarks illustrate, therefore, Bowen does not anticipate claims 1 and 16 of the present application. The applicants therefore respectfully request that the rejection of claims 1 and 16 based on Bowen be reconsidered and withdrawn.

Claims 2-7 are dependent on claim 1, and claims 17-20 are dependent on claim 16. The present dependent claims (i.e. 2-7 and 17-20) therefore incorporate the novel subject matter of claims 1 and 16 respectively by their dependence thereon. Since claims 1 and 16 are novel over Bowen, as discussed above, the present dependent claims are also novel over Bowen due at the very least to the novel subject matter incorporated therein from their respective parent claims, in addition to further unique elements severally recited in the dependent claims. As an illustrative example of those additional novel elements, claims 2 and 17 also recite memory register locations adapted to be configurable during initialization, and an interrupt configuration, which is configured for the peripheral device during initialization of the system, which are not disclosed or suggested by Bowen.

The applicants therefore respectfully request that the rejection of claims 2-7 and 17-20 based on Bowen also be reconsidered and withdrawn.

NOTE: NO NARROWING CONSTRUCTION OF CLAIM LANGUAGE

The foregoing remarks are intended to assist the Office in examining the application and in the course of explanation may employ shortened or more specific or variant descriptions of some of the claim language. Such descriptions are not intended to limit the scope of the claims; the actual claim language should be considered in each case. Furthermore, the remarks are not to be considered exhaustive of the facets of the invention which are rendered patentable, being only examples of certain novel features and differences, which the applicants have opted to comment on as illustrative examples.

Furthermore, in commenting on the references and in order to facilitate a better understanding of the differences that are expressed in the claims, certain details of distinction between the references and particular subject matter of the present application may have been commented on, even though such differences do not appear in all of the claims. It is not intended by commenting on any such distinctions to create any implied limitations in any particular claims of the present application.

CONCLUSION: ALL PENDING CLAIMS ARE IN CONDITION FOR ALLOWANCE

With this amendment, the applicants submit that claims 1-7 and 16-20 are presently in condition for allowance, and respectfully request that the Office withdraw the rejections and allow these claims.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 12-2252.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

By: David D. Brush/

David D. Brush, Reg. No. 34,557
900 Second Avenue South, Suite 1400
Minneapolis, Minnesota 55402-3319
Phone: (612) 334-3222 Fax: (612) 334-3312

DDB:akb